

## CATALOGUE OF THE MYRIAPODS OF INDIANA.\*

BY CHARLES H. BOLLMAN.

The following catalogue of the myriapods of the State of Indiana is based largely upon the material contained in the museum of the Indiana University and my own private collection. I have also included any notes, bearing upon the myriapods of Indiana, that I have found in the papers of other authors. The material in the museum of the Indiana University and my own collection is principally from the following localities:

Boswell, Benton County.....	D. M. Mottier.
La Fayette, Tippecanoe County.....	F. B. Webster.
Kokomo, Howard County.....	A. W. Moon.
Westfield, Hamilton County.....	F. C. Test.
Indianapolis, Marion County.....	F. C. Test.
Hagerstown, Wayne County.....	F. C. Test.
Richmond, Wayne County.....	F. C. Test.
Dublin, Wayne County.....	Jerome McNiell.
Greencastle, Putnam County.....	O. P. Jenkins.
Terre Haute, Vigo County.....	W. S. Blatchley.
Connersville, Fayette County.....	Robert Hesler.
Brookville, Franklin County.....	A. W. Butler.
Bloomington, Monroe County.....	C. H. Bollman.
Lawrenceburgh, Dearborn County.....	D. M. Mottier.
Mitchell, Lawrence County.....	C. H. Bollman.
Salem, Washington County.....	C. H. Bollman.
New Providence, Clark County.....	C. H. Bollman.
Wyandotte, Crawford County.....	C. H. Bollman.
New Harmony, Posey County.....	R. D. Owen.

I desire to express my thanks to the above-named gentlemen, who have kindly collected specimens for me, thus enabling me to make this catalogue much more complete and satisfactory than would have been possible without their aid. As more species have been found about Bloomington I have given it, when mentioning the localities of the different species, precedence over the other places.

I do not mean to say that this list is complete, for I think the following additional species will some time be found within the limits of the State: *Parajulus canadensis*, *Parajulus diversifrons*, *Polydesmus pinetorum*, *Theatops spinicaudus*, *Henicops fulvicornis*, and *Lithobiusmordax*.

1. *Polysonium rosalbum* (Cope).

Common: Bloomington; Terre Haute.

\* This catalogue is prepared partly from material in the U. S. National Museum collection, and the author has deposited types of the species in the Museum.—C. V. RILEY, Curator of Insects.

2. *Spirobolus americæ-borealis* (Beauvois).

Common: Bloomington; Boswell; Kokomo; La Fayette; Terre Haute; Greencastle; Brookville; New Providence; Wyandotte; New Harmony.

3. *Parajulus venustus* (Wood).

Common: Kokomo; La Fayette; Westfield; Terre Haute; Greencastle; Salem; Brookville; New Harmony.

4. *Parajulus impressus* (Say).

Rare: Bloomington; Connersville; Brookville.

5. *Parajulus rugosus* (Bollman).

Rare: Terre Haute.

6. *Parajulus pennsylvanicus* (Brandt).

Common: Bloomington; Wyandotte; Brookville.

7. *Cambala annulata minor*, subsp. nov.

Diagnosis: Similar to *C. annulata*, but much smaller and of a yellowish-brown shade.

*Habitat*: Bloomington, Greencastle, Salem, New Providence, Wyandotte, and New Harmony, Ind.; Little Rock, Ark.

*Types*: U. S. National Museum.

Nos. 1, 97, 109, collection Indiana University.

Nos. 24, 376, 440, author's collection.

*Cambala annulata*.

Author's collection.	Habitat.	Collector.	Length.	Width.
			<i>mm.</i>	<i>mm.</i>
278	Chapel Hill, N. C. ....	G. F. Atkinson .....	58	3.1
225	Mossy Creek, Tennessee.....	C. B. Branner.....	45	3.
229	.....do .....	.....do .....	40	2.5

*Cambala annulata minor*.

424	Bloomington, Ind .....	C. H. Bollman .....	37	1.5
424	.....do .....	.....do .....	25.5	1.2
376	Wyandotte, Ind .....	.....do .....	30	1.3
440	Little Rock, Ark.....	W. J. Hutcherson .....	27.5	1.5
440	.....do .....	.....do .....	25	1.2

The above figures clearly show the difference in size between the two forms. The color of *C. annulata* is a dark brown, while that of *minor* is usually more yellow.

*C. annulata minor* is abundant in southern Indiana, and I have over twenty-five specimens from Little Rock.

The specimens Packard has recorded as occurring in Little Wyandotte Cave, Indiana, and Zwinger's & Carter's Caves, Kentucky, are probably examples of this new geographical subspecies, but they may be cave varieties.

8. *Julus hortensis* (Wood).

Common: Hagerstown; Indianapolis; Connersville; New Harmony.

9. *Julus virgatus* (Wood).

Common: Bloomington; Westfield; Connersville; Salem.

10. *Nemasoma stigmatosum* (Brandt).

Rare: Bloomington.

11. *Nemasoma minutum* (Brandt).

Common: Bloomington; Indianapolis; Salem; New Providence.

A careful examination of the above two species has shown that they should be put in the European genus—*Nemasoma* Koch.

12. *Callipus lactarius* (Say).

Abundant: Bloomington; La Fayette; Kokomo; Westfield; Terre Haute; Greencastle; Brookville; Salem; New Providence; Wyandotte.

13. *Campodes flavicornis* Koch.

Very common: Bloomington; La Fayette; Salem.

14. *Scotherpes lunatum* (Harger).

Common: Bloomington; Salem.

15. *Scotherpes wyandotte*, sp. nov.

Diagnosis: Related to *Cr. lunatum* (Harger), but the color dark, ocelli arranged in a triangular patch, and the body larger and more robust.

*Habitat*: Wyandotte, Indiana.

*Type*: U. S. National Museum.

*Description*: Body stout, short, scarcely depressed. Dorsal plates reticulated; lateral carinæ as in *lunatum*. Ocelli 16-4, in a triangular patch. Yellowish-brown; legs pale. Length, 10<sup>mm</sup>; width, 1.5<sup>mm</sup>.

This new species is described from a female which was found a few miles north of Wyandotte Cave, Crawford County.

16. *Scotherpes bollmani* (McNeill).

Abundant: Mayfield's, Neeld's, Truett's and Coon's Caves, Bloomington; Phitt's and Donehue's Caves, Bedford, Ind.

17. *Pseudotremia cavernarum* (Cope).

Wyandotte, Little Wyandotte, Bradford and Marengo Caves, Crawford County, Ind.

18. *Pseudotremia carterensis* (Packard).

Around the mouth of a well at the foot of the path leading from the hotel, past Little Wyandotte Cave, I obtained five specimens of a *Craspedosoma* that seem to agree with the description of *Pseudotremia cavernarum carterensis* Packard from Bat. X, and Zwinger's Caves, Kentucky.

That this is a distinct species and not merely a variety of *C. cavern-*

*navum* is distinctly shown by the male copulation foot, the size and color of body, and its *habitat*.

My largest specimen—a male—is 30<sup>mm</sup> long and 2.2<sup>mm</sup> wide.

19. *Leptodesmus placidus* (Wood).

Mr. Mottier has sent me two specimens of this rare species from Boswell, Benton County.

20. *Fontaria virginiensis* (Drury).

Common: Bloomington; Boswell; Westfield; Terre Haute; Connersville; Brookville. This is the species described from Brookville by Mr. McNeill under the name of *Polydesmus butleri*.\*

21. *Fontaria coriacea* Koch.

*Polydesmus corrugatus* Wood, Proceed. Acad. Nat. Sci. Phila., 6, 1864 (*Michigan, New York*).

Common: Bloomington; Boswell; Kokomo; Wyandotte.

A comparison of specimens of *corrugata* Wood with Koch's figures and descriptions of *coriacea* shows that they are the same. Koch's figures show a broad yellow band along the posterior margin of each segment. This is a character common to the eastern specimens, but rare in the western forms.

22. *Fontaria indianæ*, sp. nov.

*Diagnosis*: Related to *Fontaria coriacea* Koch, but the copulation foot expanded near the middle, end angularly bent inwards, basal spine *bifid*; lateral carinae more rounded; legs of male stouter; segments always margined posteriorly with yellow.

*Habitat*: Hagerstown and Brookville.

*Types*: U. S. National Museum (Brookville and Hagerstown). No. 37, Museum Indiana University (Brookville). No. 519, author's collection (Brookville). No. 253, author's collection (Hagerstown).

*Measurements of Fontaria indianæ.*

	Habitat.	Collector.	Length.	Width.	Height.	Sex.
No. 37, Museum Indiana University	Brookville	A. W. Butler	<i>mm.</i> 34	<i>mm.</i> 9	<i>mm.</i> 5.5	♂
No. —, U. S. National Museum	do	do	38	8.5	6.5	♀
No. 519, author's collection	do	do	39	9	6	♀
No. —, U. S. National Museum	do	do	31	7.5	4.5	♀
No. 253, author's collection	Hagerstown	F. C. Test	38	8	6	♀

This species is described from ten specimens, four females and three males from Brookville, Franklin County, and three females from Hagerstown, Wayne County. It agrees with the eastern specimens of *coriacea* in having a broad yellow band along the posterior margin of each segment, but the shape of the male copulation foot, especially the *bifid* character of the basal spine, will serve to distinguish it from *coriacea*.

\* *Polydesmus butleri* McNeill, Bull. Brook. Soc. Nat. Hist., No. 3, 6, 1888 (*Brookville, Ind.*).

**23. *Fontaria butleriana*, sp. nov.**

*Diagnosis*: Related to *Fontaria coriacea* Koch, but the segments strongly attenuated posteriorly; size larger and width less in proportion to the length; dark greenish-black, with a narrow yellow line along the posterior border of each segment.

*Habitat*: La Fayette and Brookville.

*Type*: U. S. National Museum; No. 520, author's collection.

*Measurements of Fontaria butleriana.*

	Habitat.	Collector.	Length.	Width.
No. —, U. S. National Museum.....	La Fayette, Ind....	F. B. Webster....	mm 44	mm 11
No. 520, author's collection.....	Brookville, Ind....	A. W. Butler.....	41	10

The above measurements, when compared with those of *Fontaria coriacea* clearly show the difference in size.

This species is described from two females—one from each locality.

It approaches very closely to Koch's figures of *F. virginiensis*, and it is probable that he has described this species as *virginiensis*.

**24. *Euryurus erythropygus* (Brandt).**

Abundant: Bloomington; Boswell; La Fayette; Kokomo; Westfield; Terre Haute; Greencastle; Mitchell; Salem; New Providence; Brookville; Wyandotte.

**25. *Scytonotus granulatus* (Say).**

Abundant: Bloomington; La Fayette; Westfield; Greencastle; Salem; New Providence.

**26. *Scytonotus cavernarum* Bollman.**

Bloomington; Mayfield's Cave; only the original type known.

**27. *Chætaspis albus* Bollman.**

Not common: Bloomington; Salem; New Providence.

**28. *Polydesmus testi* Bollman.**

Rare: Indianapolis.

**29. *Polydesmus minor* Bollman.**

Boswell. One specimen.

**30. *Polydesmus serratus* Say.**

Abundant throughout the State.

**31. *Eurypauropus spinosus* Ryder.**

Abundant: Bloomington.

32. *Pauropus lubbocki* Packard.  
Rare: Bloomington.
33. *Linotænia chionophila* (Wood).  
Common: Bloomington; La Fayette.
34. *Linotænia fulva* (Saeger).  
Common: Bloomington; Brookville; Salem.
35. *Linotænia ruber* Bollman.  
Common: Bloomington; Boswell; La Fayette; Westfield; Greencastle; Salem; Brookville; New Providence; Wyandotte.
36. *Geophilus brunneus* McNeill.  
Common: Bloomington.
37. *Geophilus salemensis* Bollman.  
Common: Salem; Wyandotte.
38. *Geophilus varians* McNeill.  
Very common: Bloomington; Salem; New Providence.
39. *Geophilus umbraticus* (McNeill).  
Common: Bloomington; Boswell; Salem.
40. *Geophilus indianæ* McNeill.  
Rare: La Fayette (*McNeill*).
41. *Geophilus rubens* Say.  
Common: Bloomington.
42. *Geophilus oweni* Bollman.  
New Harmony. Two type specimens.
43. *Geophilis smithi* Bollman.  
Bloomington. One specimen; length 36<sup>mm</sup>.
44. *Geophilus setiger* Bollman.  
Rare: Salem.
45. *Geophilus strigosus* (McNeill).  
Rare: Bloomington; Salem.
46. *Geophilus foreatus* (McNeill).  
Not common: Bloomington; Salem; Lawrenceburgh.
47. *Geophilis attenuatus* Say.  
Common: Boswell; La Fayette; Kokomo; Westfield; Terre Haute; Brookville; Wyandotte.
48. *Scolopocryptops sexspinosus* (Say).  
Very common throughout the State.

49. *Scolopocryptops nigridius* McNeill.

Common: Bloomington; Greencastle; Brookville; Salem.

50. *Cryptops hyalinus* Say.

Common: Bloomington; Salem; New Providence; Wyandotte.

51. *Theatops posticus* (Say).

Common: Bloomington; New Providence; Wyandotte.

52. *Scolopendra woodi* Meinert.

Bloomington. Two specimens.

53. *Lithobius protidens* Bollman.

Common: Bloomington; La Fayette; Richmond; Brookville; Salem; New Providence; Wyandotte.

54. *Lithobius jowensis* Meinert.

Very common: Bloomington; La Fayette; Richmond; Greencastle; Salem; New Providence; Wyandotte.

All the specimens I have examined differ from *jowensis* by having the first pair of legs armed with 2, 3, 2 or 2, 3, 1 spines, instead of 2, 1, 1, as Meinert states; also, by having the inner spine of ♀ genitalia much shorter than the outer. These specimens may represent a geographical variety of *jowensis*, but until the *habitat* of *jowensis* and more specimens can be obtained it is not safe to describe them as such.

55. *Lithobius bilabiatus* Wood.

*Lithobius tuber* Bollman. Proceed. U. S. Nat. Mus., 256, 1887.

Rare: Bloomington.

56. *Lithobius trilobus* Bollman.

Not common: Bloomington; Salem.

57. *Lithobius pullus* Bollman.

Rare: Bloomington.

58. *Lithobius cardinalis* Bollman.

Common: Bloomington; Westfield; Salem; New Providence.

59. *Lithobius howei* Bollman.

Common: Bloomington; Kokomo; Dublin.

60. *Lithobius forficatus* (Linnaeus).

Common in northern part of State, but rare in the southern parts. Bloomington; Westfield; Connersville; Greencastle; Lawrenceburgh.

61. *Lithobius tyrannus* Bollman.

Common: Bloomington; Lafayette; Greencastle; Salem; New Providence.

62. *Lithobius juvenus* Bollman.

Rare: Bloomington. Four specimens.



63. *Lithobius multidentatus* Newport.

Abundant throughout the State.

64. *Scutigera forceps* (Rafinesque).

Bloomington; New Harmony; Evansville.

INDIANA UNIVERSITY,

*Bloomington, December 25, 1888.*